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10/718,202	11/20/2003	Ryosaku Inamura	0941.68751	9823

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EXAMINER

MILLER, BRIAN E

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/718,202

Filing Date: November 20, 2003

Appellant(s): INAMURA ET AL.

MAILED

JUL 25 2007

Technology Center 2600

James K. Folker
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 3/26/07 appealing from the Office action mailed 7/18/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

The amendment after final rejection filed on 4/2/07 has been entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5815342	Akiyama et al	9-1998
02-227814 (JP)	Fukuichi	9-1990

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (US 5,815,342) in view of Fukuichi (JP 02-227814).

Akiyama et al discloses a perpendicular magnetic recording medium 20, as shown in at least FIGs. 1& 2, including at least: a perpendicular magnetic recording layer 23 and a backing layer 22 backing the perpendicular magnetic recording layer, the backing layer having an in-plane magnetization (see col. 7, lines 8-10), characterized in that the backing layer is formed of a ferrimagnetic material having a compensation temperature. It could be presumed that this undefined “compensation temperature” in the claim could be met by the material of the backing layer of Akiyama, however, since the specific temperature and/or the material as set forth in the claim, e.g., GdFe alloy (claim 3), has not been recited in Akiyama et al, it is considered that the “compensation temperature” being within the vicinity of a recording/reproducing temperature in which reproducing of magnetic information is made from the perpendicular magnetic recording layer has not been expressly taught by Akiyama et al.

Fukuichi, however, discloses a perpendicular magnetic recording medium including a ferrimagnetic backing layer 2 which is formed of a GdFe alloy, e.g., GdFeCo, which material would provide the aforementioned proper “compensation temperature” (see CONSTITUTION-first 4 lines).

From this teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have substituted the CoZrNb backing layer of Akiyama et al with the backing layer formed of GdFeCo, as taught by Fukuichi. The motivation would have been:

lacking any unobvious or unexpected results, substituting one well-suited material for another similar material, would have resulted from at least routine engineering experimentation and/or optimization. Furthermore, as taught by, Fukuichi, a high-density perpendicular recording medium would be generated.

Still further, (as per claim 2) wherein the recording/reproducing temperature is -20 to 100 degrees C is considered to encompass a typical recording/reproducing temperature; (as per claim 3) wherein the ferrimagnetic material is any of an alloy of GdFe system, an alloy of DyFe system and a garnet ferrite (as discussed, supra); (as per claim 4) wherein the perpendicular magnetic recording layer is any of a single layer perpendicular magnetic film or a multilayer perpendicular magnetic film, i.e., Akiyama et al at least would encompass the single layer perpendicular magnetic layer configuration.

(10) Response to Argument

A....Appellant asserts on page 9 of the Appeal Brief in the “Argument” section that “One of ordinary skill in the art would not have modified the back layer of Akiyama et al. in light of the Ferrimagnetism layer of JP ‘814 because the relevant layer of Akiyama et al. has in-plane magnetization while the relevant layer of JP ‘814 has perpendicular magnetization.”

This argument appears to be misdirected, because the Examiner is not relying on JP ‘814 to modify the magnetization of the backing layer of Akiyama et al, but only to modify the material of the backing layer. It is noted that while the CoZrNb backing layer of Akiyama et al must necessarily have a “compensation temperature,” it has not been expressly disclosed. The Examiner turns to JP ‘814 to suggest that one having ordinary skill would have looked to other

perpendicular recording media to choose other materials for the backing layer. It is the Examiner's position that a skilled artisan would have had the knowledge to select other known materials for the backing layer. It is also noted that the particular easy axis magnetization of the material, i.e., in-plane or out-of-plane, would have been easily chosen by the end user, at least through engineering design choice. It is the Examiner's position that the material chosen, e.g., GdFeCo, would maintain the in-plane magnetization as already taught by Akiyama et al. It is considered that the teachings of Fukuichi would have been very pertinent to skilled artisans in the perpendicular recording art, such that materials having known favorable magnetic characteristics would have been readily provided for in other perpendicular recording media, as established herein.

B...Appellant further asserts on page 11 of the Appeal Brief that "Assuming arguendo that one would have modified the back layer of Akiyama et al. to include the compensation temperature of JP '814, they would have also included the perpendicular magnetization structure of JP '814." The Examiner does not find this argument persuasive. The teachings of the cited prior art, at least as a whole, show that different magnetizations in the backing layer, and different materials, can both produce high density perpendicular recordings. It is maintained that the combined teachings of the prior art of record, would result in a perpendicular recording medium of the pending claims. Applicant's invention cannot be realized by the pending claims. The teachings of Akiyama et al clearly teach the claimed magnetizations of the recording layer and the backing layer, while the JP '814 teaches the use of the claimed backing layer material. The Examiner maintains that the combination of the prior art references is proper and therefore maintained.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Brian E. Miller/

Primary Patent Examiner AU 2627

Conferees:

/Hoa Thi Nguyen/

Supervisory Patent Examiner AU 2627

/Andrea Wellington/

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